

ATTACHMENT C

EXHIBIT 1

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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA**

CIVIL ACTION NO. 3:20-CV-06754

**GOOGLE LLC,
v.
SONOS, INC.**

SUPPLEMENTAL EXPERT REPORT OF JAMES E. MALACKOWSKI

December 9, 2022



*the playback device is configured to play back audio in synchrony with one or more other playback devices in the media playback system.*¹⁰⁰

Based upon the Opening Almeroth Report, I understand that the '885 Patent "provided a new way of grouping networked media players such as smart speakers together for synchronous playback of media."¹⁰¹ An example provided by Dr. Almeroth describes the zone scene functionality:

*Unlike the audio players in "conventional multi-zone audio system[s]," the "zone players" in this new type of networked multi-zone audio system are data network devices that each have a processor, memory, circuitry for processing digital audio data and outputting audio, and a network interface for communicating over a data network with other data network devices. For instance, each "zone player" is capable of communicating over LAN 108 with "controlling devices" 140, 142, other "zone players," and a local audio source such as "computing device" 110. Additionally, each "zone player" is capable of communicating over the Internet (via LAN 108) with a remote audio source that provides "streaming audio" (such as the YouTube Music and Spotify services that exist today). This networked multi-zone audio system provided a new paradigm that advanced over the "conventional multi-zone audio system[s]" discussed in the background of the '885 and '966 Patents that were connected by speaker wire to a centralized A/V receiver and did not have the capability to communicate over a data network or process digital data, which made such systems "inflexible," "difficult" to use, and "not [] suitable" for many users.*¹⁰²

6.3 The '966 Patent

The '966 Patent, entitled "Zone Scene Management" is assigned to Sonos, Inc.¹⁰³ The application that resulted in the issuance of the '966 Patent was filed on April 12, 2019, which itself is a continuation of application number 15/130,919, filed on April 15, 2016, which is a continuation of application number 14/465,457, filed on August 21, 2014 (now U.S. Patent No. 9,344,206), which is a continuation of application number 13/896,829, filed on May 17, 2013 (now U.S. Patent No. 8,843,228), which is a continuation of application number 11/853,790, filed on September 11, 2007 (now U.S. Patent No. 8,483,853), which claims priority to provisional application number 60/825,407, filed on September 12, 2006.¹⁰⁴ I understand that Sonos has alleged infringement of claims 1-2, 4, 6, 8-10, 12, 14, and 16.¹⁰⁵

The '966 Patent specification issued on November 5, 2019 and expires on or around September 11, 2027.¹⁰⁶ The abstract of the '966 Patent reads as follows:

An example computing device in a media playback system receives a first request to create a first zone scene including a first preconfigured grouping of zones including a first zone and a second zone, and based on the first request, causes creation and storage of the first zone scene. The computing device receives a second request to create a second zone scene

¹⁰⁰ U.S. Patent No. 10,848,885, p. 1.

¹⁰¹ Opening Almeroth Report, p. 33.

¹⁰² Opening Almeroth Report, p. 33. Internal cites omitted.

¹⁰³ U.S. Patent No. 10,469,966, p. 1.

¹⁰⁴ U.S. Patent No. 10,469,966, pp. 1-2.

¹⁰⁵ Opening Almeroth Report, p. 8.

¹⁰⁶ "US10469996," *Google Patents*, <https://patents.google.com/patent/US10469966B2/en?q=10469966>.



Metric	Nov. 5 - Dec. 31						
	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021
Android Install Events						6,039,952	5,607,146
Android Operating System Share	44.2%	41.1%	40.5%	40.5%	39.0%	39.0%	41.4%
Total Install Events						15,475,152	13,542,741

Metric						Oct. 1 - Nov. 15	
	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Total
Android Install Events	5,794,286	7,267,309	6,310,676	5,752,036	6,108,336	2,979,426	
Android Operating System Share	42.6%	41.3%	41.2%	42.5%	43.8%	44.2%	41.3%
Total Install Events	13,586,727	17,587,873	15,306,036	13,536,312	13,952,336	6,735,449	

9. SONOS'S PATENT-PRACTICING PRODUCTS

I understand that Sonos does not practice the direct control technology (and thus the '033 Patent) because they do not specifically offer a computer device that can serve as a controller for the Sonos system, such as a smartphone. As discussed above in Section 8.1, Google, through the Pixel phone and its apps, offers a controller device which enables a consumer to utilize direct control technology.

I understand that, before the release of the S2 app in May 2020, Sonos did not have the ability to create a zone scene either through a controller or a speaker. Since the release of the S2 app, however, I understand that any S2-compatible device would be able to practice the claims of the '885 Patent and the '966 Patent. According to Dr. Almeroth:

After evaluating Sonos's commercial products and the '885 and '966 Patents, it is my opinion that as of June 2020 the Sonos One, One SL, Play:1, Play:3, Play:5, Five, Move, Roam, Beam, Playbar, Playbase, Arc, Connect, Port, Connect:Amp, Amp, SYMFONISK table lamp WiFi speaker, and SYMFONISK bookshelf WiFi speaker each practice at least claim 1 of the '885 Patent. In addition, it is my opinion that third-party computing devices (e.g., iOS and Android smartphones) installed with the Sonos S2 app practice each of the Asserted Claims of the '966 Patent. These opinions are based on my review of Sonos's First and Second Supplemental Responses to Google's Interrogatory No. 13 and the materials identified therein, as well as my own use of Sonos's commercial products and testing that I oversaw and directed. In addition, these opinions are based on my review of Sonos's Technology Tutorial, which I understand was submitted to the Court in February 2022. Further, this opinion is also based on my review of the patent to product information available on Sonos's website for the '885 and '966 Patents.¹⁷⁸

Sonos states that the Sonos One directly competes with every infringing Home and Nest Audio product sold by Google during the damages period.¹⁷⁹ Announced and released in October 2017 at a price point of \$199,

¹⁷⁸ Opening Almeroth Report, p. 329.

¹⁷⁹ Sonos, Inc.'s Preliminary Damages Disclosure Pursuant to Patent Local Rule 3-8, January 25, 2022, p. 7.



the Google/Sonos licensing negotiation was that Sonos does not usually seek to license its intellectual property to third parties.²³⁹ These licensing negotiations also support the running royalty form of payment.²⁴⁰

I have provided summaries of certain agreements that I find particularly important to highlight in the following sections.

12.1.1 Sonos's Licenses and Agreements

12.1.1.1 Sonos/Legrand License

On December 1, 2020, Sonos and Pass & Seymour, Inc. ("Legrand") entered into the Confidential Patent License Agreement (the "Sonos/Legrand License").²⁴¹ As part of this license, both Sonos and Legrand agreed to release provisions which irrevocably released both Sonos and Legrand from any outstanding claims of infringement related to Sonos's Licensed Patents or Covered Products or Legrand's Licensee Patents or Covered Products.²⁴²

As defined in the license, for Legrand, Covered Products included "all multi-room audio products," which comprised 15 products from the "Nuvo" product line.²⁴³ For Sonos, Covered Products was defined as "all software, products and services of Sonos that are Sold by Sonos during the Term."²⁴⁴ Licensed Patents was defined as "all utility Patents owned or controlled by Sonos at any time during the Term, but excluding any of the Sonos Patent portfolio related to concurrent voice technology (*i.e.*, patents directed to concurrently operating multiple voice services on a single product, offering, or device)."²⁴⁵ Licensee Patents were defined as "any utility Patents owned or controlled by Licensee and or its Affiliates at any time during the Term which are related to multi-room wireless audio products and/or smart speakers."²⁴⁶ The Term of the Sonos/Legrand License began on the Effective Date and would terminate upon September 30, 2024 unless Sonos or Legrand provide notice of early termination.²⁴⁷

Sonos granted to Legrand, "effective as of the Effective Date, a personal, nonexclusive, non-transferable (except as specifically provided for in Section 7.8) and non-sublicensable license under the Licensed Patents

²³⁹ Deposition of James Malackowski, August 26, 2022, pp. 174-175.

²⁴⁰ Deposition of James Malackowski, August 26, 2022, pp. 174-175.

²⁴¹ Pass & Seymour operates as Legrand in the U.S. See "Legrand," *Legrand.US*, <https://www.legrand.us/pass-and-seymour>. SONOS-SVG2-00042905-922 at 905.

²⁴² SONOS-SVG2-00042905-922 at 907-908.

²⁴³ SONOS-SVG2-00042905-922 at 905-906 and 921.

²⁴⁴ SONOS-SVG2-00042905-922 at 906. The license notes that Covered Products do not include: 1) Foundry Products; 2) Acquired Products; 3) Stand-Alone Software; or 4) Clone Products.

²⁴⁵ SONOS-SVG2-00042905-922 at 906.

²⁴⁶ SONOS-SVG2-00042905-922 at 906.

²⁴⁷ SONOS-SVG2-00042905-922 at 913.



to Sell Covered Products in the applicable Territories during the Term.”²⁴⁸ The Territories was defined as worldwide.²⁴⁹ Legrand covenanted not to sue Sonos for patent infringement under the Licensee Patents.²⁵⁰

In return for granting a license, Sonos would receive compensation in the form of an initial fee as well as ongoing royalty payments. The non-refundable initial fee would be equivalent to royalty payments for sales made between January 1, 2019 and September 30, 2020 as consideration for releasing Legrand from any alleged infringement prior to the December 1, 2020.²⁵¹ For sales made on October 1, 2020 or later, Legrand would pay a per-unit royalty according to volume tiers and relevant geography, as shown in the figure below.

Figure 15: Sonos/Legrand License Royalty Structure²⁵²

	Annual Units					
	Less than 5,000	5,001 - 10,000	10,001 - 20,000	20,001 - 40,000	40,001 - 80,000	Over 80,000
U.S.	\$ 12.00	\$15.00	\$19.00	\$24.00	\$30.00	\$30.00
Non-U.S.	\$ 3.60	\$ 3.60	\$ 4.50	\$ 5.70	\$ 7.20	\$ 9.00

Additionally, for Covered Products below \$100 MSRP, Legrand agreed to pay a flat-rate per-unit royalty of \$6.00 or \$3.00, depending on if a unit was sold within the United States or not, respectively.²⁵³ Legrand would also be subject to a minimum royalty payment of:

- i) \$35,000 for October 1, 2020 to September 30, 2021;
- ii) \$20,000 for October 1, 2021 to September 30, 2022;
- iii) \$7,500 for October 1, 2022 to September 30, 2023; and
- iv) \$2,500 for October 1, 2023 to September 30, 2024.²⁵⁴

The Sonos/Legrand License would initially extend through September 30, 2024, subject to either party providing a notice of termination prior to that date.²⁵⁵ Both parties also agreed to “negotiat[e] in good faith any extension of the Term [and]...any sales made [] beginning on October 1, 2024 through the date an agreement to an Extended term is made and executed [] shall be considered licensed.”²⁵⁶ On October 15, 2021, Legrand notified Sonos that it had “as of October 13, 2021, initiated an End-of-Life Event for all Covered Products.”²⁵⁷

²⁴⁸ SONOS-SVG2-00042905-922 at 908.

²⁴⁹ SONOS-SVG2-00042905-922 at 907.

²⁵⁰ SONOS-SVG2-00042905-922 at 908.

²⁵¹ SONOS-SVG2-00042905-922 at 907, 909.

²⁵² SONOS-SVG2-00042905-922 at 910.

²⁵³ SONOS-SVG2-00042905-922 at 910.

²⁵⁴ SONOS-SVG2-00042905-922 at 911.

²⁵⁵ SONOS-SVG2-00042905-922 at 913.

²⁵⁶ SONOS-SVG2-00042905-922 at 913.

²⁵⁷ SONOS-SVG2-00054781.



The Sonos/Legrand License is a portfolio-wide license which includes all Sonos “utility Patents owned or controlled by Sonos at any time during the Term but excluding any of the Sonos Patent portfolio related to concurrent voice technology.”²⁵⁸ Therefore, I understand this license included rights to the Asserted Patents in addition to a multitude of other technologies. From an economic perspective, a license to Sonos’s entire portfolio is not economically comparable to a bare patent license that would result from the hypothetical negotiation. However, the running royalty rate structure is indicative of the royalty form Sonos historically accepted in exchange for a license to its intellectual property. Also, given that the license is for Sonos’s entire portfolio minus concurrent voice technology, the per-unit royalty rates included in the Sonos/Legrand License can be viewed as a maximum ceiling for the value of the Direct Control and Zone Scene technology.

In the hypothetical negotiation, the parties would consider that the technology licensed was broader than the Asserted Patents, in addition to several economic factors. The Sonos/Legrand License included mutual covenants not to sue, which is a right granted above and beyond what would be considered at the hypothetical negotiation. In addition, the Sonos/Legrand License granted worldwide rights while the license resulting from the hypothetical negotiation would be limited to the United States. While I understand that Sonos and Legrand were competitors in the speaker market, Legrand paid approximately \$200,000 in royalties because, according to Legrand, it was getting out of the market.²⁵⁹

It is my opinion that there are several economic factors associated with this license which make it unhelpful for determining a royalty rate in the hypothetical negotiation. However, since the license did include a grant to Sonos’s entire portfolio, which I understand included the Asserted Patents, the per-unit royalty rates could represent a maximum as to the value of the royalty rate the parties would agree upon at the hypothetical negotiation.

Mr. Bakewell and I both agree that this agreement is “not comparable to the hypothetical license” that would be granted in this matter.²⁶⁰ However, Mr. Bakewell also states that this agreement “is not relevant to the hypothetical negotiations, either in terms of form or amount, particularly as a ‘maximum’” because it is wider in scope geographically (*i.e.*, worldwide) and legally (*i.e.*, including release, covenant not to sue, etc.).²⁶¹ I disagree with Mr. Bakewell’s characterization — he provides no analysis to support his claims and I understand that, on balance, Sonos’s extensive patent portfolio included in this license would likely outweigh the arguments Mr. Bakewell advances.

²⁵⁸ SONOS-SVG2-00042905-922 at 906.

²⁵⁹ Legrand offers “professional-grade architectural and outdoor speakers.” “Speakers,” *Legrand.com*, <https://www.legrand.us/audio-visual/speakers/c/lgnd011300>. See, SONOS-SVG2-00054769; SONOS-SVG2-00054770; SONOS-SVG2-00054771; SONOS-SVG2-00054772; SONOS-SVG2-00054773; SONOS-SVG2-00054774; SONOS-SVG2-00054775; SONOS-SVG2-00054776-778; SONOS-SVG2-00054779; SONOS-SVG2-00054780; SONOS-SVG2-00054781; SONOS-SVG2-00054782-784; SONOS-SVG2-00054785-788; SONOS-SVG2-00054789-792; and SONOS-SVG2-00054793-796.

²⁶⁰ Bakewell Rebuttal Report, p. 183.

²⁶¹ Bakewell Rebuttal Report, pp. 181-183.



12.1.1.2 Sonos/Lenbrook License

On July 28, 2020, Sonos and Lenbrook Industries Limited (“Lenbrook”) entered into a Confidential Patent License Agreement (the “Sonos/Lenbrook License”).²⁶² Although the Sonos/Lenbrook License is not explicitly entitled as a settlement, both parties agreed to, within three days of execution, “jointly move to dismiss with prejudice all of their claims in the following litigation between the Parties: *Sonos, Inc. v. Lenbrook Industries Limited d/b/a Bluesound International et al*, 2-19-cv-05411 (CDCA).”²⁶³ The Sonos/Lenbrook License would remain effective through March 31, 2024, subject to either party’s written notice of early termination.²⁶⁴ Lenbrook also retained the right to extend the license two times, each for an additional two year period.²⁶⁵

Structured as a cross-license, both parties granted the other “a personal, nonexclusive, nontransferable [] and nonsublicensable [] license under the Licensed Patents to Sell Covered Products” worldwide.²⁶⁶ Specifically, Sonos was licensed to use Lenbrook’s patents in “all software, products and services,” while Lenbrook licensed the use of Sonos’s patents, including “patents in the current litigation between the Parties (USP 8,588,949; 8,868,698; 8,938,312; 9,195,258; 9,219,959; 9,252,721; and 9,883,234) and all patents claiming priority to the foregoing or to any patent or application to which any of the foregoing claim priority” in “all BluOS-enabled multi-room wireless audio products, software or services.”²⁶⁷ The Sonos/Lenbrook License defined Covered Products for Lenbrook as “all BluOS-enabled multi-room wireless audio products, software, or services that are Sold by Lenbrook, its Subsidiaries, or Partners, during the Term (excluding Acquired Products).”²⁶⁸

In exchange for the license granted, Lenbrook agreed to pay Sonos an initial fee as well as a per-unit royalty. The non-refundable initial fee, an amount “equivalent to the 2019 royalties due,” would be paid under the same royalty structure and could not be credited to future royalties.²⁶⁹ Sonos would not explicitly pay for the license provided by Lenbrook, but was rather compensated “in the form of reduced Royalties and the reduction in the amount of the Initial Fee.”²⁷⁰ For Covered Products sold January 1, 2020 and later, the tiered royalty structure shown in the figure below would apply:

²⁶² SONOS-SVG2-00042923-944 at 923.

²⁶³ SONOS-SVG2-00042923-944 at 936.

²⁶⁴ SONOS-SVG2-00042923-944 at 931.

²⁶⁵ SONOS-SVG2-00042923-944 at 932.

²⁶⁶ SONOS-SVG2-00042923-944 at 923-926.

²⁶⁷ SONOS-SVG2-00042923-944 at 923-924.

²⁶⁸ SONOS-SVG2-00042923-944 at 924.

²⁶⁹ SONOS-SVG2-00042923-944 at 927.

²⁷⁰ SONOS-SVG2-00042923-944 at 927.

**Figure 16: Sonos/Lenbrook License Royalty Structure**²⁷¹

	Annual Units						
	Less than 5,000	5,001 - 10,000	10,001 - 20,000	20,001 - 40,000	40,001 - 80,000	80,001 - 160,000	Over 160,000
U.S.	\$ 12.00	\$15.00	\$19.00	\$24.00	\$30.00	\$30.00	\$30.00
Non-U.S	\$ 3.60	\$ 3.60	\$ 3.60	\$ 4.50	\$ 5.70	\$ 7.20	\$ 9.00

Similar to the Sonos/Legrand License, Lenbrook also agreed to a flat-rate per-unit royalty of \$6.00 or \$3.00 for Covered Products under \$100 MSRP inside or outside the United States, respectively.²⁷² Lenbrook would also pay a minimum quarterly royalty of \$10,000 throughout the license term as a “pre-payment to be applied towards amounts owed by Lenbrook for Royalties.”²⁷³ Finally, in the event that Sonos agreed to a lower royalty payment structure to a “Similarly Situated Licensee,” with no other additional value received by said licensee, then Lenbrook would be entitled to receive the new, discounted royalty rate.²⁷⁴

The technology licensed under the Sonos/Lenbrook License is technically comparable to the Asserted Patents. Specifically, I understand that Sonos licensed to Lenbrook the patents which were at issue in ongoing litigation which broadly relate to multi-room home audio speakers. However, the license provides no way to determine a value specific to Direct Control or Zone Scene technologies. The license is also a license to multiple patents, rather than a bare patent license including only the Asserted Claims.

In the hypothetical negotiation in this case, the parties would consider that the technology licensed was comparable generally. The parties would also consider several economic factors. Specifically:

- i) the Sonos/Lenbrook License was entered as part of the settlement of litigation, in which Lenbrook contested the validity and infringement of Sonos’s patents;²⁷⁵
- ii) Lenbrook agreed neither to contest nor assist another in contesting the validity, infringement, or enforceability of the Licensed Patents against any third party;
- iii) the royalty was likely discounted based on the risk of either invalidity or non-infringement judgments of Sonos’s patents;²⁷⁶

²⁷¹ SONOS-SVG2-00042923-944 at 927-928.

²⁷² SONOS-SVG2-00042923-944 at 928.

²⁷³ SONOS-SVG2-00042923-944 at 928-929.

²⁷⁴ SONOS-SVG2-00042923-944 at 929.

²⁷⁵ Answer, Sonos, Inc. v. Lenbrook Industries Limited and Lenbrook America Corp., Case No. 2:19-CV-05411, October 14, 2019, pp. 50-53.

²⁷⁶ I note that at the time of the settlement, the underlying litigation was relatively early along. The complaint in the case was filed on June 20, 2019 (Docket No. 1) and the case was dismissed on July 30, 2020 (Docket No. 51), shortly after the Answer to the Complaint was filed as Docket No. 45. Complaint for Patent Infringement, *Sonos, Inc., v. Lenbrook Industries Limited, et al.* (CDCA), C.A. 2:19-cv-05411, p. 1; Order Granting Joint Stipulated Request For Dismissal with Prejudice, *Sonos, Inc., v. Lenbrook Industries Limited, et al.* (CDCA), C.A. 2:19-cv-05411, p. 1; and Lenbrook Industries Limited’s First Answer to Complaint for Patent Infringement, *Sonos, Inc., v. Lenbrook Industries Limited, et al.* (CDCA), C.A. 2:19-cv-05411, p. 1.



- iv) both parties granted licenses to each other similar in nature to a cross-license;²⁷⁷ and
- v) the license grant was worldwide and included a most-favored nation clause, whereas the hypothetical negotiation would result in a bare license covering the United States.

I understand that Lenbrook has paid Sonos approximately \$1.5 million in royalties under this license.²⁷⁸

Mr. Bakewell and I agree that the Sonos/Lenbrook License is not probative of the outcome of the hypothetical negotiation in this case.²⁷⁹ However, I note that the per-unit royalty structure is indicative of Sonos's past licensing history. Mr. Bakewell disagrees with this opinion, stating that "[t]he royalty rates that Mr. Malackowski discusses associated with this agreement are not relevant to the hypothetical license, nor are any of its other terms," claiming I do not account for the stage of the settlement, the "effective economic lives of patents," or the discount associated with the validity and infringement of Sonos's patents.²⁸⁰

Mr. Bakewell misses the mark – I do not use the royalty rate amount, rather only the structure, to inform my opinion. First, Mr. Bakewell's comments regarding the stage of settlement and discount would generally affect the royalty rate only, not the structure. Second, the "effective economic lives of patents" is one of the reasons that Sonos would push for a running royalty at the hypothetical negotiations; it provides a risk-sharing opportunity between the licensee and the licensor as seen in this license and noted by Mr. Bakewell.

12.1.1.3 Sonos/DEI Agreement

On May 17, 2018, Sonos and DEI Sales, Inc. ("DEI" or "Denon") entered into a Confidential Patent Covenant Agreement (the "Sonos/DEI Agreement").²⁸¹ Both parties agreed to a worldwide covenant not to sue for patent infringement of the Covered Products, as well as the dismissal of current litigation proceedings in both district court and the Patent Trial and Appeal Board, subject to Denon successfully making all payments contemplated therein.²⁸²

The Sonos/Denon Agreement would remain in effect until May 17, 2022; however, each of the covenants not to sue with respect to the litigated patents would remain in effect through the expiration of said patents.²⁸³ A summary of the litigated patents between the parties is found in the figure below:

²⁷⁷ SONOS-SVG2-00042923-944 at 926.

²⁷⁸ SONOS-SVG2-00054797-798; SONOS-SVG2-00054799; SONOS-SVG2-00054800-802; SONOS-SVG2-00054803-804; SONOS-SVG2-00054805-807; SONOS-SVG2-00054808-811; and SONOS-SVG2-00054812-814.

²⁷⁹ Bakewell Rebuttal Report, p. 179.

²⁸⁰ Bakewell Rebuttal Report, pp. 179-180.

²⁸¹ SONOS-SVG2-00059384-404 at 384.

²⁸² SONOS-SVG2-00059384-404 at 386-388, 394.

²⁸³ SONOS-SVG2-00059384-404 at 389.

**Figure 17: Denon-Sonos Litigated Patent List²⁸⁴**

DEI	Sonos	
6,469,633	7,571,014	8,938,312
6,473,441	7,792,311	8,938,637
6,539,210	7,805,682	9,042,556
7,305,694	8,024,055	9,130,771
7,343,435	8,370,678	9,195,258
7,734,850	8,588,949	9,202,509
7,987,294	8,689,036	9,213,357
7,995,899	8,788,080	9,219,959
8,755,667	8,843,224	D559,197
	8,923,997	

As compensation for the covenant not to sue, release, and other consideration provided by Sonos, Denon agreed to pay a non-refundable \$10 million, spread across four payments as such:

- i) \$2.5 million within seven days of the Effective Date;
- ii) \$3.0 million within 128 days of the Effective Date;
- iii) \$3.0 million within 188 days of the Effective Date; and
- iv) \$1.5 million within 233 days of the Effective Date.²⁸⁵

The technology licensed under the Sonos/Denon License is technically comparable to the Asserted Patents. Specifically, I understand that Sonos licensed to Denon the patents which were at issue in ongoing litigation which broadly relate to multi-room home audio speakers. However, the license provides no way to determine a value specific to Direct Control or Zone Scene technologies. Specifically, I understand that Sonos licensed its entire portfolio to Denon, rather than a bare patent license including only the Asserted Claims.

In the hypothetical negotiation in this case, the parties would consider that the technology licensed was on a portfolio-wide level, in addition to several economic factors. Specifically:

- i) the Sonos/Denon Agreement was entered as part of the settlement of litigation, in which litigation Denon contested the validity of and infringement of Sonos's patents;²⁸⁶
- ii) the Sonos/Denon Agreement includes covenants and releases by both Sonos and Denon from any and all claims of infringement of the Covered Patents;
- iii) the royalty was likely discounted based on the risk of a judgment of invalidity or non-infringement of Sonos's patents;
- iv) both parties granted covenants and releases to each other similar in nature to a cross-license;²⁸⁷ and

²⁸⁴ SONOS-SVG2-00059384-404 at 384-385.

²⁸⁵ SONOS-SVG2-00059384-404 at 388.

²⁸⁶ Defendants' Answer to Plaintiff's Second Amended Complaint, *Sonos, Inc. v. D&M Holdings Inc., et al*, Case No. 14-1330 (RGA), April 30, 2015, p. 16.

²⁸⁷ SONOS-SVG2-00059384-404 at 386-388.



- v) the license grant was worldwide whereas the hypothetical negotiation would result in a bare license covering the United States.

I find the Sonos/Denon Agreement to not be probative of the outcome of the hypothetical negotiation in this case, as the Sonos/Denon Agreement was entered as part of settlement of litigation which included covenants from both Sonos and Denon. Mr. Bakewell concurs that this agreement is not comparable to the hypothetical license in this case.²⁸⁸

12.1.1.4 Sonos's Negotiating History with Google

Beginning at least by October 2016, Sonos and Google participated in licensing discussions surrounding their respective intellectual property portfolios. Sonos's stated objective of these discussions was to "gain [a] mutual understanding of IP landscape to enable [an] even stronger relationship with Google."²⁸⁹ Sonos offered multiple presentations which summarized their patent portfolio and highlighted which Google hardware devices and software features corresponded to selected Sonos patents.²⁹⁰

For its part, it appears Google also participated substantially in these discussions, providing a presentation conveying its historical successes with its IP portfolio and tying its patent portfolio to Sonos's product and feature offerings.²⁹¹ This same presentation also provided a portfolio comparison based on a "balance of trade" approach, comparing the number of patents, applicability of assets, portfolio growth, future value, and impacted revenue of each party on the other's portfolio.²⁹²

On [REDACTED] Tanya Moore at Sonos sent a Confidential License and Business Engagement Agreement Term Sheet ("Term Sheet") to Google for discussion purposes only.²⁹³ Notably, in bolded lettering, the Term Sheet states that "[o]ther than confidentiality obligations and other restrictions imposed by the NDA and FRE 408, this Term Sheet does not create any binding legal obligation between the parties."²⁹⁴ [REDACTED] this Term Sheet was neither finalized nor subsequently enforceable.²⁹⁵

²⁸⁸ Bakewell Rebuttal Report, p. 179.

²⁸⁹ SONOS-SVG2-00041769-806 at 771.

²⁹⁰ SONOS-SVG2-00041610-642 at 612-613; SONOS-SVG2-00041769-806 at 774-775.

²⁹¹ SONOS-SVG2-00041643-686 at 646-669.

²⁹² SONOS-SVG2-00041643-686 at 670-671.

²⁹³ GOOG-SONOSNDCA-00116067-071 at 067.

²⁹⁴ GOOG-SONOSNDCA-00116067-071 at 067.

²⁹⁵ GOOG-SONOSNDCA-00116067-071 at 067.

²⁹⁶ GOOG-SONOSNDCA-00116067-071 at 067.



[REDACTED]

[REDACTED]

[REDACTED] However, Licensed Products excluded Foundry Products or “Google Cast Software; provided, however, Licensed Products includes Google Cast Software used, or hosted by Google, including but not limited to, software incorporated into a device of Google or subsidiaries. For the avoidance of doubt, Google Assistant and the Google Home application are Licensed Products and not Google Cast Software.”³⁰⁰ I understand that Google Cast Software was defined as “[a]ny software of Google or its subsidiaries that enables a device to implement or be interoperable with Google Cast for Audio by incorporating the relevant Cast SDK, or equivalents of the functionality of Google Cast for Audio.”³⁰¹

[REDACTED]

This Term Sheet is not comparable to the hypothetical negotiation for many reasons. Namely, the Term Sheet contemplated a cross-license between Sonos and Google, which is fundamentally different than a bare patent license that would be considered in the hypothetical negotiation. Specifically, “[l]icense agreements including cross-license provisions are often difficult to determine the value of the intellectual property being cross-license[d].”³⁰⁶ This is even more relevant in this situation where the parties had business engagements

²⁹⁷ GOOG-SONOSNDCA-00116067-071 at 067-068.

²⁹⁸ GOOG-SONOSNDCA-00116067-071 at 071.

²⁹⁹ GOOG-SONOSNDCA-00116067-071 at 068.

³⁰⁰ GOOG-SONOSNDCA-00116067-071 at 068.

³⁰¹ GOOG-SONOSNDCA-00116067-071 at 069.

³⁰² GOOG-SONOSNDCA-00116067-071 at 069.

³⁰³ GOOG-SONOSNDCA-00116067-071 at 069-070.

³⁰⁴ GOOG-SONOSNDCA-00116067-071 at 070.

³⁰⁵ GOOG-SONOSNDCA-00116067-071 at 070.

³⁰⁶ Fogarty, B., Renk, C., Bowling, A., “Is This License Comparable? Issues Facing Damages Experts When Determining Reasonable Royalties,” *The University of Texas School of Law*, https://bannerwitcoff.com/_docs/library/articles/ARTICLE%20--%20APLI.Is%20this%20License%20Comparable.January%202013.pdf.



where Google helped Sonos implement a custom version of its voice technology in Sonos products. I also understand that around this time, in [REDACTED] it was still unclear whether Google would be competing in the hardware smart speaker market. As of [REDACTED] Google only had two audio players on the market: the Google Home and Chromecast Dongle.³⁰⁷ Sonos also had relatively fewer patents at this time and Google's potential infringement was also smaller.

However, just a few days after signing the Term Sheet, Google announced the release of two new speakers – the Google Mini and the Google Home Max – which solidified Google's entrance into the smart speaker market and as a direct competitor with Sonos. Therefore, the lump-sum payment that is referenced in this Term Sheet is drastically low as it assumes that Google would work with Sonos to implement its technology into Sonos speakers and that Google would remain a small player in the market with relatively few products available. For these reasons, the Term Sheet is not comparable to the hypothetical negotiation; Mr. Bakewell concurs with this opinion in his rebuttal report.³⁰⁸

In July 2018, now after Google has begun to fiercely compete for households in the smart speaker market, Sonos again presented an "IP License Model" to the Google team, the goal of which was to "obtain a royalty rate that reflects the value attributable to the features of Google's products that are covered by the Sonos patent portfolio."³⁰⁹ Sonos's methodology is summarized in the figure below – and resulted in U.S.-based per-unit royalty rates of \$3.01, \$7.92, \$40.87, and \$2.91 for the Google Mini, Google Home, Google Max, and Cast Dongle, respectively.³¹⁰

Figure 18: Sonos Licensing Proposal Methodology³¹¹

1. Round 1: identify the commercially desirable/marketable features found today in Google's smart speakers, and how those features are presented to consumers.
2. Round 2: determine Sonos' IP contribution with respect to those features.
3. Calculate a royalty rate using (1) the identified features, (2) Sonos's contribution, and (3) the estimated profits of Google's smart speakers.

In [REDACTED] Google responded with a presentation of its own which reviewed its disagreements with Sonos's proposed methodology and results, while also providing specific representative examples of its own technology, resulting again in a "balance of trade" IP license model.³¹² By [REDACTED], Sonos provided its own feedback on Google's licensing model, while noting they had been "hoping to receive Google's

³⁰⁷ Section 8.2.

³⁰⁸ Bakewell Rebuttal Report, pp. 184-186.

³⁰⁹ SONOS-SVG2-00041807-860 at 807, 809.

³¹⁰ SONOS-SVG2-00041807-860 at 817.

³¹¹ SONOS-SVG2-00041807-860 at 809.

³¹² SONOS-SVG2-00041571-609 at 606-607.



substantive feedback on Sonos's previously proposed licensing model."³¹³ In the same month, Sonos provided Google access to an electronic repository containing approximately 100 claim charts, including certain patents sharing specifications with each of the Asserted Patents.³¹⁴ Despite continued efforts on Sonos's part, their "discussions have never meaningfully progressed. Even since [Sonos] filed in the ITC, Google has increased the scope of its infringement and brought a multiplicity of retaliatory lawsuits in countries around the world."³¹⁵

12.1.2 Google Licenses

12.1.2.1 Google – [REDACTED]

On December 4, 2012, Google and [REDACTED] ("[REDACTED]") entered into a Patent License Agreement (the "Google/[REDACTED] License Agreement").³¹⁶ Under the agreement, [REDACTED] granted Google a perpetual, irrevocable, non-exclusive, non-transferable, non-sublicensable, fully paid-up, worldwide license under the Licensed Patents to: 1) research, develop, make, have made, use, host, offer for sale, sell, distribute directly or indirectly, import, and otherwise dispose of any Licensed Product; and 2) to practice any method, service, process, or procedure within the Licensed Patents.³¹⁷ The Licensed Patents included U.S. Patent No. 7,103,770 and U.S. Publication No. 20090157893 which relate to data streaming technology.³¹⁸

The term of the agreement commenced on the Effective Date and shall continue in full force and effect until the last to expire of the Licensed Patents.³¹⁹ [REDACTED] acknowledged that its acquisition of the Licensed Patents was funded in part by Google, and that such partial funding shall be deemed to include a non-refundable license fee that [REDACTED] has accepted as full consideration for the license granted to Google thereunder.³²⁰ An October 25, 2012 bid letter from Google shows that Google contributed \$80,000.³²¹

In the hypothetical negotiation in this case, the parties would consider that there are several distinguishing economic factors which, in my opinion, render this agreement non-comparable. The Google/[REDACTED] License granted worldwide rights, while the license resulting from the hypothetical negotiation would be limited to the United States. I also understand that [REDACTED] is a non-practicing entity ("NPE").³²²

Licenses with an NPE are fundamentally different than with a competitor who is an operating company actively participating in the same industry. In the case of a license with an NPE, the NPE is not looking to commercialize or utilize patented technology but instead is focused purely on monetization. In the

³¹³ SONOS-SVG2-00041568-570 at 568.

³¹⁴ GOOG-SONOSNDCA-00055986-991 at 986; GOOG-SONOSNDCA-00055970-975; Appendix 11.1.

³¹⁵ GOOG-SONOSNDCA-00056001.

³¹⁶ GOOG-SONOSNDCA-00055142-152 at 142.

³¹⁷ GOOG-SONOSNDCA-00055142-152 at 143.

³¹⁸ GOOG-SONOSNDCA-00055142-152 at 142, 152.

³¹⁹ GOOG-SONOSNDCA-00055142-152 at 147.

³²⁰ GOOG-SONOSNDCA-00055142-152 at 147.

³²¹ GOOG-SONOSNDCA-00069849-851 at 849; GOOG-SONOSNDCA-00055142-152 at 147.

³²² I have not been able to find any information about the company [REDACTED] through document production and public research. Therefore, I have assumed the company is an NPE.



advertising markets. Specifically, Google's infringement of Sonos's patented inventions has helped, and will continue to help, Google generate significant revenue from the use of Google's infringing Cast-enabled media players including e-commerce, data collection, and search via Google's Cast-enabled media players. As the *New York Post* explained in January 2018, "Amazon and Google both discounted their home speakers so deeply over the holidays that they likely lost a few dollars per unit...hoping to lock in customers and profit from later sales of goods and data about buying habits...Google gave away the devices to buyers of its new Pixel 2 smartphones and offered them for \$29 at Wal-Mart, Target and Best Buy."⁵³⁸ Similarly, *News Without Borders* explained that companies like Google are using their "smart speaker" devices as "loss leader[s]" to support advertising or e-commerce."⁵³⁹ In December 2019, WBUR, Boston's NPR news station, described Google's strategy as follows: "This tactic – hardware as a loss leader – fits squarely within...Google's broader strategy of maximizing smart-speaker adoption in order to start hoovering up even more user data: search queries, musical tastes, purchases, etc."⁵⁴⁰ WBUR highlighted "a few recent examples" of Google's promotional tactics as follows:

- (i) "Get a free Google Home Mini just for having a Spotify Premium subscription;"
- (ii) "Buy select Tile products, get a free Google Home Mini;"
- (iii) "Bundle a Google Nest Hub and a Google Nest Mini;"
- (iv) "Bundle a copy of the 'Frozen II' book and Google Home Mini;"
- (v) "Link your utility account, get a free Google Home Mini."⁵⁴¹

Again, I have not accounted for Google's additional revenue from ecommerce, search, and customer data collection in my reasonable royalty analyses.

Google's loss leader strategy also allows it to "lock" consumers into Google's multiroom audio system such that these consumers do not purchase a similar multiroom audio product from a competitor like Sonos in the future. In contrast, had these consumers purchased one of Sonos's products initially, then it is more likely that they would be Sonos households purchasing additional multiroom audio products from Sonos in the future. As *Fast Company* explained in March 2018: "The business motivations are clear: Tech giants like...Google...see the smart home as new territory to conquer through their respective ecosystems...As a result, the more you buy into one system, the more you become locked out of others."⁵⁴² As Google knows all too well, "smart speakers" serve "as a gateway into the home."⁵⁴³ Once customers purchase an infringing Google product, they are far less likely to purchase a similar product from a competitor like Sonos. Christopher Chan, a Google employee and Google's corporate representative on sales and marketing strategies, competition, app installs, customer usage, and data feedback, testified that Google hopes that the purchase of one product leads to the purchase of a second product from the same company:

Q. If someone buys a Sonos speaker, then they would be in the Sonos ecosystem; right?

⁵³⁸ SONOS-SVG2-00042333-336.

⁵³⁹ SONOS-SVG2-00042337-344.

⁵⁴⁰ SONOS-SVG2-00056439-444 at 440. Emphasis in original.

⁵⁴¹ SONOS-SVG2-00056439-444 at 440.

⁵⁴² SONOS-SVG2-00056412-428 at 415.

⁵⁴³ SONOS-SVG2-00056368-373 at 369.



Asserted Patents in this case. For example, the Asserted Patents teach, among other things, features that are expected by consumers of the Accused Instrumentalities, and those features are included in Google's Home Mini, Nest Mini, Home, Home Max, Home Hub, Nest Hub, Nest Hub Max, Nest Audio, Nest WiFi Point, Chromecast, Chromecast Audio, Chromecast Ultra, and Chromecast with Google TV products, among others. Additionally, Google's alleged non-infringing alternatives would have little, if any, impact on the hypothetical negotiation in this case as they are too uncertain, too unsubstantiated, and the potential availability of such alternatives has already been accounted for through my selection of quantitative royalty rate indicators.

16.1 Competition Between Google and Sonos

Mr. Bakewell opines that Google and Sonos do not have competitive products for certain segments, and due to that, infers that Sonos would place a lower value to the technology contained in the Asserted Patents.⁶⁹⁸ I do not agree with Mr. Bakewell's analysis. Mr. Bakewell opines that Google did not list Sonos as a competitor in their Form 10-K.⁶⁹⁹ However, Sonos, the licensor in the hypothetical negotiations, lists Google as a competitor and would take that into consideration when agreeing to a reasonable royalty.⁷⁰⁰ I provide a more detailed analysis of the competitive environment in Section 14.5, where documents produced by Sonos and Google contain competitive comparisons that solidify the competitive environment that existed between the parties at the time of the hypothetical negotiation.

16.2 The Cost Approach and Non-Infringing Alternatives for the Asserted Patents

Mr. Bakewell's cost approach analysis is defective because it relies on alleged non-infringing alternatives that are either not commercially acceptable or still infringe the Asserted Patents, or both. But, Mr. Bakewell's cost approach analysis is flawed for additional reasons. For example, Mr. Bakewell provides his opinions regarding certain costs to Google of implementing its non-infringing alternatives.⁷⁰¹ Specifically, based on the opinions contained in the expert reports of Dr. Bhattacharjee and Dr. Schonfeld, in the Bakewell Rebuttal Report, Mr. Bakewell claims:

*The foregoing evidence indicates that the total cost to implement [the] NLA...[is] less than \$5,000 for the '885 patent...This includes amounts spent to implement the NLAs (i.e., out-of-pocket, fixed or accounting costs) as well as any implications in terms of sales or cost or yield impacts (i.e., variable economic costs). As I will explain further...each of these categories of NLAs is further shown to be commercially acceptable. The patents-in-suit, even if they might be significant advancements, are not the inventions of the types of technologies that generate increased prices or unit sales (i.e., do not generate significant demand).*⁷⁰²

However, contrary to Mr. Bakewell's flawed analysis, Google's alleged non-infringing alternatives would have little, if any, impact on the hypothetical negotiation in this case because they are too uncertain, too

⁶⁹⁸ Bakewell Rebuttal Report, pp. 78-84, 153-154, 158, 160, 162.

⁶⁹⁹ Bakewell Rebuttal Report, p. 80.

⁷⁰⁰ Sonos, Inc. Form 10-K for the fiscal year ended October 2, 2021, p. 9.

⁷⁰¹ Bakewell Rebuttal Report, p. 58.

⁷⁰² Bakewell Rebuttal Report, p. 59.



unsubstantiated, and the potential availability of such alternatives has already been accounted for through my selection of quantitative royalty rate indicators.

As discussed above, the Cost Approach, properly applied, considers out-of-pocket expenditures, as well as risks, lost sales, and other adverse economic impacts connected with the alternative technology.⁷⁰³ In the context of the hypothetical negotiation, the parties would consider that Google's alleged non-infringing alternatives would be given little, if any, weight, because they are unproven, unsubstantiated, and the underlying data do not show that they would be viable to Google's consumers, and therefore Google's alleged non-infringing alternatives present too high a risk profile that they would not ultimately be accepted to end users.

Mr. Bakewell states:

*Mr. Mackay told me Google can push out a software update to the accused devices (although, again, if done on an ex ante basis, no software updates would be required). Mr. Mackay also told me that, Google typically pushes out software updates at least three times annually, and has the option to send periodic updates as necessary. I understand that implementing this NLA would not require additional hardware cost. I further understand there are no ongoing costs in terms of no impact on sales or changes in demand or pricing.*⁷⁰⁴

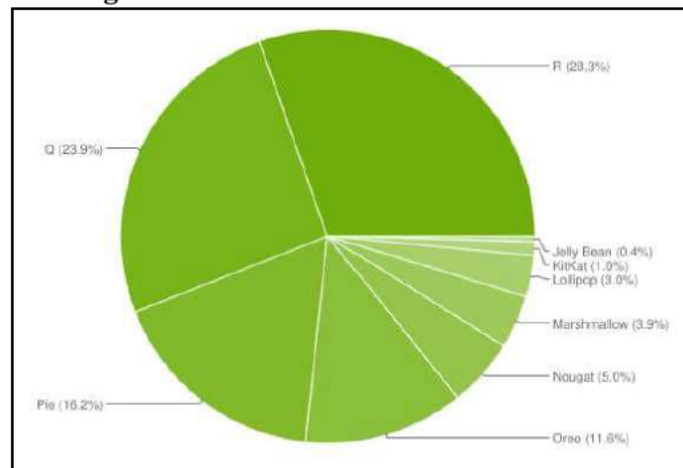
Based on the above, Mr. Bakewell fails to properly account for the significant risk of failure associated with Google's alleged non-infringing alternatives, which renders his quantitative analysis flawed and unreliable.

Furthermore, even if Google "pushes out" software updates that contain the non-infringing alternative software, I am unaware of any evidence provided by Google to support the notion that all users would update their products and that the Accused Instrumentalities would no longer infringe. Indeed, even "[d]ata from Google reveals that consumers aren't taking to the new Android 12 as quickly as the tech giant would like[.]"⁷⁰⁵

⁷⁰³ See, Section 12.3.

⁷⁰⁴ Bakewell Rebuttal Report, pp. 57-58.

⁷⁰⁵ Ahmed, A., "Google's Data Reveals That Not Many Are Willing To Upgrade To The New Android 12," *Digital Information World*, <https://www.digitalinformationworld.com/2022/05/googles-data-reveals-that-not-many-are.html>.

**Figure 71: Android Distribution of Devices⁷⁰⁶**

As shown in the figure above, the new Android 12 operating system “is absolutely nowhere to be seen across the entire platform.”⁷⁰⁷ Thus, Google can claim that a software update to the accused devices would prevent those devices from infringing, but as shown above, it takes time, “and perhaps active intervention on Google’s behalf,” to have a new software downloaded across all Android devices, and even then, there will be users who do not upgrade.⁷⁰⁸

Mr. Bakewell states that “[t]he total labor costs to design, implement and test this NIA is less than \$5,000” and “would have been lower on an *ex ante* basis.”⁷⁰⁹ However, Mr. Bakewell does not account for or explain why Google has not chosen to implement this alternative even though the costs of this litigation have greatly exceeded the proposed \$5,000. For example, Mr. Bakewell states that the hourly rate of a Google Level 6 engineer in the San Francisco Bay Area in 2021 was around [REDACTED] per hour.⁷¹⁰ Thus, with only about [REDACTED] of work from a Google Level 6 engineer, Mr. Bakewell alleges Google would have been able to create a non-infringing alternative, yet Google has chosen to continue to infringe and spend countless hours at significant expense to defend against what they believe to be a \$5,000 alternative.⁷¹¹ Mr. Bakewell states that he understands “it would take about one day of one senior level...engineer to design, test and implement this NIA” yet the Asserted Claims have been litigated by Google since at least February 2021.⁷¹²

Lastly, I understand from Dr. Almeroth that Google had provided users the ability to use the features contained in the Accused Instrumentalities “as early as December 2015” and as such, “Google’s customers

⁷⁰⁶ Ahmed, A., “Google’s Data Reveals That Not Many Are Willing To Upgrade To The New Android 12,” *Digital Information World*, <https://www.digitalinformationworld.com/2022/05/googles-data-reveals-that-not-many-are.html>.

⁷⁰⁷ Ahmed, A., “Google’s Data Reveals That Not Many Are Willing To Upgrade To The New Android 12,” *Digital Information World*, <https://www.digitalinformationworld.com/2022/05/googles-data-reveals-that-not-many-are.html>.

⁷⁰⁸ Ahmed, A., “Google’s Data Reveals That Not Many Are Willing To Upgrade To The New Android 12,” *Digital Information World*, <https://www.digitalinformationworld.com/2022/05/googles-data-reveals-that-not-many-are.html>.

⁷⁰⁹ Bakewell Rebuttal Report, p. 58.

⁷¹⁰ Bakewell Rebuttal Report, p. 58.

⁷¹¹ Bakewell Rebuttal Report, pp. 57-58.

⁷¹² Bakewell Rebuttal Report, p. 3.



would have been accustomed to being able to create and save a new speaker group” by the date of the hypothetical negotiation.⁷¹³ Dr. Almeroth also points out that the alternative proffered by Google “was not on the market during the timeframe of infringement” and that Google did not establish the alternative “would have been available to Google – particularly in view of the fact that Sonos has many other patents directed to technology for grouping ‘zone players’ together for synchronous playback.”⁷¹⁴

Similar to the above, Dr. Schmidt has discussed with me that the Direct Control functionality contained in the Asserted Patents has allowed users to become accustomed to the current infringing method and that the proposed non-infringing alternatives proposed by Google would not be well received by those users.⁷¹⁵ Indeed, according to Dr. Schmidt, the alleged non-infringing alternatives proposed by Google could introduce issues, pointing out that even one of Google’s own employees testified that “‘I absolutely do not want my phone, which is a much lower quality audio device, outputting sound at the same time’ as the system used with a Cast device.”⁷¹⁶

17. PREJUDGMENT INTEREST

From an economic analysis standpoint, a time-value-of-money award would be necessary to compensate Sonos for the loss of use of funds during the damages period. However, I understand that an award of prejudgment interest is a legal matter and that the Court has substantial discretion in determining the interest rate and compounding method to be awarded. I am prepared to submit a prejudgment interest calculation if requested by the Court.

18. CONCLUSION

Based on the totality of the circumstances in this case and the information available to me at this time, I have concluded that the appropriate form of compensation in this case, for Sonos’s Asserted Patent claims, is an award of reasonable royalty damages.

I have analyzed quantitative and qualitative valuation metrics, including the *Georgia-Pacific* factors, and have reached a conclusion regarding the appropriate reasonable royalties due Sonos. In my opinion the total royalty rate for the ’033 Patent is \$0.97, the total royalty rate for the ’885 Patent is \$0.87, and the total royalty rate for the ’966 Patent is \$0.82. Reasonable royalty damages due Sonos are \$214.5 million, \$12.2 million, and \$144.4 million for the ’033 Patent, ’885 Patent, and ’966 Patent, respectively.⁷¹⁷

⁷¹³ Opening Almeroth Report, pp. 322-323.

⁷¹⁴ Opening Almeroth Report, p. 324.

⁷¹⁵ Discussion with Douglas C. Schmidt, technical expert for the ’033 Patent.

⁷¹⁶ Opening Schmidt Report, pp. 156-157.

⁷¹⁷ Appendices 3.1-S, 3.3-S, 5.1.1 and 5.1.2-S. $\$0.97 = \0.79 advertising revenue royalty rate + $\$0.19$ subscription revenue royalty rate.